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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/535,718	08/05/2005	Henri Van Der Knokke	P/22-258	7713
2352 7590 01/04/2007 OSTROLENK FABER GERB & SOFFEN 1180 AVENUE OF THE AMERICAS NEW YORK, NY 100368403			EXAMINER DUNLAP, JONATHAN M	
			ART UNIT	PAPER NUMBER
			2112	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		01/04/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/535,718

Applicant(s)

KNOKKE ET AL.

Examiner

Jonathan Dunlap

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☒ Claim(s) 4-5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 May 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08).
- Paper No(s)/Mail Date 20 May 2005.
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 7. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The disclosure is objected to because of the following informalities:

- The patent of reference on page 1, line 6 does not contain the prior art as indicated by the applicant. The appropriate U.S. Patent is patent **5,952,587** by **Rhodes et al.** This patent has been included in the attached PTO-892 form.
- On Page 5, line 10, a reference is made to **Figure 2c**, while no **Figure 2c** exists. Perhaps applicant meant **Figure 2b**, and the reference to **Figure 2b** as stated on line 3, should be referencing **Figure 2a**.

Appropriate correction is required.

Claim Objections

Claims 4 and **5** are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. In **claims 1** and **3**, Applicant has asserted that the sensors are in at least one of the outer diameter of the outer ring or the inner diameter of the inner ring. **Claims 4** and **5**, which are dependant off of **claims 1** and **3** respectively, further claim that the exact same sensors are in the outer diameter of the inner ring or the inner diameter of the outer ring. Applicant has improperly claimed two locations, which are mutual exclusive.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. **Claims 4 and 5** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Applicant is claiming that there exist grooves on the outer diameter of in the inner ring or the inner diameter of the outer ring, but has nowhere in the disclosure afforded any information which would support this claim. Throughout the specification and the drawings, applicant has shown a groove on the outer diameter of the outer ring or a groove on the inner diameter of the inner ring.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claim 1** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Bauly (GB 2 113 845 A)** in view of **Keck (U.S. Patent 4,175,429)**.

Considering **claim 1** and **3**, Bauly discloses a rolling bearing **11-15** comprising:

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- Opposing, cooperating curved raceways **11,13 (Figure 2; Lines 45-46);**
- Rolling bodies **12** arranged between and rolling along the raceways **11,13 (Figure 2; Lines 73-82);** and
- Strain gauge sensors **21-27** on at least one of the outer diameter **21,22** of the outer ring **13** and the inner diameter of the inner ring (**Figure 2; Lines 60-81**).

The invention by Bauly discloses all of the claimed limitations from above but fails to disclose that each of the strain gauge sensors comprises a plurality of adjacent conductor track sections and that the lengths of two adjacent ones of the conductor track sections of the strain gauge sensor differ.

5. However, Keck teaches:

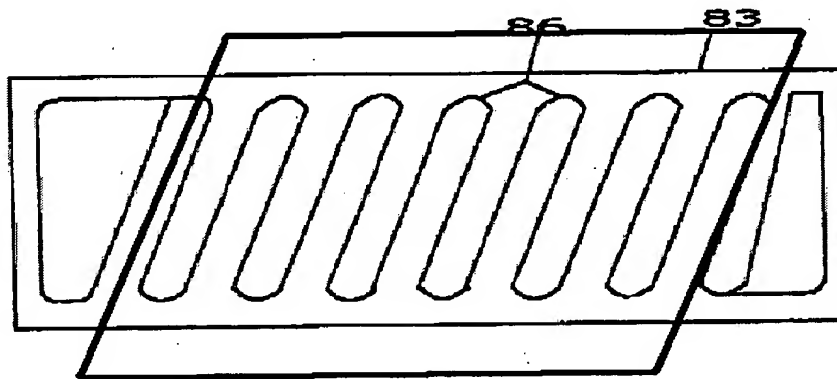
- Strain gauge sensors that comprise a plurality of adjacent conductor track sections **5 (Figure 2; Column 3, lines 5-12);** and
- The lengths of two adjacent ones of the conductor track **5** sections of the strain gauge sensor differ (**Figure 2**).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to included a strain gauge having a plurality of adjacent conductor tracks sections with the lengths of two adjacent ones of the track sections being different as taught by Keck in the invention by Bauly. The motivation for doing so was to provide a device to cover a larger area for sensing force (**Keck, Column 1, lines 25-33**).

6. **Claim 2** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Bauly (GB 2 113 845 A)** in view of **Keck (U.S. Patent 4,175,429)** and further in view of **Stimpson (U.S. Patent 6,596,949)**.

The invention by Bauly, as modified by Keck, discloses all of the claimed limitations from above, but fails to disclose that the conductor track sections are so arranged with respect to each other and are of such lengths that the respective strain gauge sensors in a plurality of the sensors together define a respective trapezoid in each of the plurality of sensors.

7. However, Stimpson teaches adjacent conductor track sections are so arranged with respect to each other and are of such lengths that the respective strain gauge sensors in a plurality of the sensors together define a respective trapezoid in each of the plurality of sensors (**Figure 9 – Emphasis Added Below; Column 5, lines 29-39**).



Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include a strain gauge sensor in the shape of a trapezoid as taught by Stimpson in the invention by Bauly, as modified by Keck. The

motivation for doing so is to provide an alternate and more efficient embodiment of the invention by Bauly, as modified by Keck.

8. **Claim 4** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Bauly (GB 2 113 845 A)** in view **Stimpson (U.S. Patent 6,596,949)** and further in view of **Schutz (U.S. Patent 4,117,719)**.

The invention by Bauly, as further modified by Stimpson, discloses all of the claimed inventions from above, but fails to disclose a groove in the outer diameter of the inner ring of the inner diameter of the outer ring and the sensors are in the groove.

9. However, Schutz teaches a groove **7** in the outer diameter of the inner ring of the inner diameter of the outer ring **1** and the sensors **6** are in the groove **7 (Figure 1; Column 1, lines 59-63)**.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a groove in the inner diameter of the outer ring and the sensors disposed in the groove as taught by Schutz in the invention by Bauly, as further modified by Stimpson. The motivation for doing this is to provide a sensor at the main load zone of the bearing. **(Schutz, Column 1, line 62)**.

10. **Claim 3** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Bauly (GB 2 113 845 A)** in view of **Salou et al. (U.S. Patent 6,619,102 B2)**.

The invention by Bauly discloses all of the claimed limitations from above, but fails to disclose that the distance between two adjacent sensors in the axial direction varies.

11. However, Salou teaches that the distance between two adjacent sensors **28** in the axial direction varies (**Figure 6; Column 5, lines 30-45**).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide two adjacent sensors in the axial direction with a distance between that varies as taught by Salou in the invention by Bauly. The motivation for doing so is to provide a method of measuring a torsion strain. (**Salou, Column 5, line 37-40**).

12. **Claim 5** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Bauly (GB 2 113 845 A)** in view of **Salou et al. (U.S. Patent 6,619,102 B2)** and further in view of **Schutz (U.S. Patent 4,117,719)**.

The invention by Bauly, as modified by Salou, discloses all of the claimed inventions from above, but fails to disclose a groove in the outer diameter of the inner ring of the inner diameter of the outer ring and the sensors are in the groove.

13. However, Schutz teaches a groove **7** in the outer diameter of the inner ring of the inner diameter of the outer ring **1** and the sensors **6** are in the groove **7** (**Figure 1; Column 1, lines 59-63**).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a groove in the inner diameter of the outer ring and the sensors disposed in the groove as taught by Schutz in the invention by Baully, as modified by Salou. The motivation for doing this is to provide a sensor at the main load zone of the bearing. (**Schutz, Column 1, line 62**).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Stoferele et al., Fuss et al., Fujita et al., Rhodes et al., and Marshall. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan Dunlap whose telephone number is (571) 270-1335. The examiner can normally be reached on M-F 8-5 with every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrell McKinnon can be reached on (571) 272-4797. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jonathan Dunlap
Examiner
Art Unit 2112
December 18, 2006

A handwritten signature in black ink that reads "Jonathan Dunlap". The signature is written in a cursive, flowing style.A handwritten signature in black ink that reads "Terrell L. McKinnon". The signature is written in a cursive, flowing style.

TERRELL L. MCKINNON
SUPERVISORY PATENT EXAMINER